pCODR EXPERT REVIEW COMMITTEE (pERC)
FINAL RECOMMENDATION

The pan-Canadian Oncology Drug Review (pCODR) was established by Canada's provincial and territorial Ministries of Health (with the exception of Quebec) to assess cancer drug therapies and make recommendations to guide drug-funding decisions. The pCODR process brings consistency and clarity to the cancer drug assessment process by looking at clinical evidence, cost-effectiveness and patient perspectives.

pERC Final Recommendation
This pERC Final Recommendation is based on a reconsideration of the Initial Recommendation and feedback from eligible stakeholders. This pERC Final Recommendation supersedes the pERC Initial Recommendation.

Drug: Panitumumab (Vectibix) **Submitted Funding Request:** For the treatment of patients wild-type RAS metastatic colorectal cancer (WT RAS mCRC) in first line treatment setting in combination with FOLFOX	
Submitted By: Amgen Canada Inc.	**Manufactured By:** Amgen Canada Inc.
NOC Date: August 31, 2015	**Submission Date:** April 15, 2015
Initial Recommendation: October 1, 2015	**Final Recommendation:** December 3, 2015

pERC RECOMMENDATION	The pCODR Expert Review Committee (pERC) recommends funding panitumumab in addition to combination chemotherapy conditional on cost-effectiveness being improved to an acceptable level, for the treatment of patients with WT RAS mCRC in the first-line treatment setting who have a contraindication or intolerance to bevacizumab and who would otherwise be treated only with combination chemotherapy. Funding should be in patients with good performance status. Treatment should continue until unacceptable toxicity or disease progression. pERC made this recommendation because the Committee considered that there is a net clinical benefit with panitumumab plus FOLFOX compared to FOLFOX alone, based on a moderate improvement in progression-free and overall survival, manageable but not insignificant toxicities, and no difference in quality of life. pERC also noted that panitumumab plus FOLFOX aligned with patient values as there is a need for more effective treatment options for patients with a contraindication or intolerance to bevacizumab who would otherwise be treated only with combination chemotherapy. pERC does not recommend funding panitumumab (Vectibix) for the treatment of the entire population of patients with WT RAS mCRC in the first-line treatment setting in combination with chemotherapy, who would otherwise be candidates to receive bevacizumab. pERC made this recommendation as the Committee was unable to conclude that there is a net clinical benefit with panitumumab plus FOLFOX compared to bevacizumab plus FOLFOX. There was considerable uncertainty in the progression-free and overall survival results as well as significant skin toxicities associated with panitumumab plus FOLFOX compared to bevacizumab plus FOLFOX. The uncertainty in the survival benefit of panitumumab plus FOLFOX and whether there is an unmet need given available therapy (bevacizumab plus FOLFOX or plus FOLFIRI) led pERC to conclude that panitumumab plus FOLFOX only partially aligned with patient values. The Committee noted that panitumumab plus FOLFOX compared to FOLFOX alone or bevacizumab plus FOLFOX could not be considered cost-effective in this population.
POTENTIAL NEXT STEPS FOR STAKEHOLDERS	**Pricing Arrangements to Improve Cost-Effectiveness** Given that pERC was satisfied that there is a net clinical benefit of panitumumab for the treatment of patients with WT RAS mCRC in the first-line treatment setting in addition to combination chemotherapy, who have a contraindication or intolerance to bevacizumab and would otherwise be treated only with combination chemotherapy, jurisdictions may want to consider pricing arrangements and/or cost structures that would improve the cost-effectiveness to an acceptable level. Jurisdictions may want to consider costing of panitumumab no higher than bevacizumab in the first-line mCRC setting.

SUMMARY OF pERC DELIBERATIONS

Metastatic colorectal cancer (mCRC) is the second most common cause of cancer deaths in Canada and is generally considered incurable. Bevacizumab, an anti-angiogenic agent, together with oxaliplatin or irinotecan-based combination chemotherapy (bevacizumab plus FOLFOX or plus FOLFIRI), is standard first-line therapy in the management of mCRC (including WT RAS mCRC) in Canada. The majority of patients can tolerate bevacizumab. However, there is a small subgroup of patients (approximately 10%) who have contraindications or intolerance to bevacizumab, for example, active bleeding. These patients are currently treated with FOLFOX, FOLFIRI, or capecitabine alone. Consistent with a previous pCODR review, pERC confirmed that there are limited treatment options available for patients with mCRC who are unable to receive bevacizumab in the first-line setting. Therefore, there is a need for more effective and tolerable treatments in this setting.

pERC's Deliberative Framework for drug funding recommendations focuses on four main criteria:	
CLINICAL BENEFIT	PATIENT-BASED VALUES
ECONOMIC EVALUATION	ADOPTION FEASIBILITY

pERC deliberated on the results of one randomized phase II open-label trial (PEAK) and one randomized phase III open-label trial (PRIME) included in the pCODR systematic review as well as contextual information on another epidermal growth factor receptor (EGFR) inhibitor reviewed by pCODR in the first-line mCRC setting. The PEAK study (Schwartzberg 2014) compared panitumumab plus FOLFOX with bevacizumab plus FOLFOX and the PRIME study (Douillard 2010) compared panitumumab plus FOLFOX with FOLFOX alone. pERC discussed the results of the PEAK study, which compared panitumumab plus FOLFOX to bevacizumab plus FOLFOX, the most appropriate comparator in the first-line treatment of mCRC. pERC had several concerns with the generalizability of the PEAK study given that it was a phase II trial, the limited number of patients with WT RAS mCRC, and the lack of independent assessment of the primary outcome, progression-free survival (PFS). pERC noted that improvement in overall survival (OS) was observed in the PEAK study, despite no improvement in the primary outcome of PFS. pERC acknowledged that the pCODR Clinical Guidance Panel concluded efficacy results from the PEAK study were similar to other studies of EGFR inhibitors (e.g. cetuximab) in combination with first-line chemotherapy. Collectively, these studies in the first-line mCRC setting had conflicting PFS and OS results. Additionally, pERC noted that panitumumab and bevacizumab had different toxicity profiles. Grade three or higher skin toxicities were reported in 32% of patients in the panitumumab plus FOLFOX group. Significant skin toxicities can impact day-to-day patient quality of life (QoL), however, QoL was not reported in the PEAK study. Given the uncertainty in the efficacy results in the context of all of the evidence on EGFR inhibitors in mCRC and significant skin toxicities associated with panitumumab, pERC could not conclude that there was a net clinical benefit with panitumumab plus FOLFOX compared to bevacizumab plus FOLFOX. pERC noted that patients would still have access to panitumumab later in the management of mCRC as a third-line treatment. The Committee was not confident that there was sufficient evidence to change this treatment strategy and to provide access to panitumumab in the first-line treatment of patients with WT RAS mCRC, where bevacizumab is the standard of care. Upon reconsideration of the pERC Initial Recommendation, pERC discussed feedback from the submitter that panitumumab should not be limited to patients who do not receive bevacizumab in the first-line setting as the PEAK and CALGB80405 trials have shown better or at least equal efficacy between EGFR inhibitors plus chemotherapy and bevacizumab plus chemotherapy in this setting. pERC reiterated that based on the totality of current evidence, the Committee could not conclude that there was a net clinical benefit with panitumumab plus FOLFOX compared to the current funded standard of bevacizumab plus FOLFOX.

pERC also discussed the results of the PRIME study and noted moderate improvements in PFS and OS in favour of panitumumab plus FOLFOX compared to FOLFOX alone. pERC also discussed the potential for panitumumab treatment to convert initially unresectable disease to resectable, offering patients the chance for long-term remission. Although resection rates for patients with liver-only metastases were numerically higher in the panitumumab plus FOLFOX group compared to the FOLFOX alone group, the overall rates were low and statistical analyses for the differences in rates were not reported. Therefore, pERC was unable to conclude that panitumumab provides a clinical benefit by converting more patients to potentially resectable disease. pERC reviewed adverse events from the PRIME study and noted that the

information aligned with the expected toxicity profile of panitumumab, which is well-known as panitumumab is already used as a third-line therapy for patients with mCRC. pERC also noted QoL did not deteriorate with the addition of panitumumab to FOLFOX. Considering all of these factors, pERC concluded that there is a net clinical benefit with panitumumab plus FOLFOX for patients with WT RAS mCRC who have a contraindication or intolerance to bevacizumab and who would otherwise be treated only with combination chemotherapy.

pERC deliberated upon input from one patient group, which indicated that patients valued access to therapies that prolong survival, provide an alternative toxicity profile, and improve quality of life. Patients who had direct experience with panitumumab noted skin toxicities including rash; however, patients noted their tolerance for side effects is higher in the absence of effective treatment options. pERC was unable to conclude that there was a net clinical benefit with panitumumab plus combination chemotherapy compared to the standard of care bevacizumab plus combination chemotherapy as there were discordant efficacy results, significant skin toxicities, and no reported QoL in the PEAK study. pERC noted significant skin toxicities can impact day-to-day patient QoL. Therefore, for patients who are able to receive bevacizumab in the first-line mCRC setting, pERC considered that panitumumab plus FOLFOX only partially aligns with patient values. pERC noted that there is an unmet clinical need for effective treatment options for patients with mCRC who have contraindications or intolerance to bevacizumab, and therefore, panitumumab plus FOLFOX aligns with patient values in such cases.

pERC deliberated on the cost-effectiveness of panitumumab based on the submitted models. pERC noted at the submitter's estimates of cost-effectiveness, panitumumab could not be considered cost-effective compared to FOLFOX alone in the bevacizumab ineligible population or to bevacizumab plus FOLFOX in the bevacizumab eligible population. pERC expressed significant concerns that the pCODR Economic Guidance Panel (EGP) was unable to provide an estimate of panitumumab's cost-effectiveness due to issues with the functionality of the economic model, particularly, the absence of the option to shorten the extrapolation of clinical benefit gained with panitumumab plus FOLFOX. pERC noted it was clinically implausible that panitumumab would accrue the same amount of benefit in a shorter period of time. Upon reconsideration of the pERC Initial Recommendation, pERC discussed feedback regarding the upper and lower values for the 95% confidence interval of the PFS hazard ratios of panitumumab plus FOLFOX versus the comparators. The submitter indicated that these values are extreme and do not reflect how likely these hazard ratios will occur. pERC noted the Committee's conclusion on panitumumab's cost-effectiveness was not based on the probability of these hazard ratio values occurring, rather pERC agreed with the different assumptions upon which the EGP estimates were based. The Committee was uncertain that the observed hazard ratios from the trials reflected the expected clinical benefit gained with panitumumab plus FOLFOX. pERC concluded that at both the submitter and EGP estimates of cost-effectiveness, panitumumab could not be considered cost-effective.

pERC discussed factors that could impact the feasibility of implementing a funding recommendation for panitumumab in addition to combination chemotherapy. pERC acknowledged that RAS testing is currently completed in later lines of therapy and there would be an increase in the volume of RAS testing upon funding panitumumab in the first-line setting of mCRC for patients who have contraindications or intolerance to bevacizumab. Some provinces do not fund FOLFOX in the first-line mCRC setting. pERC accepted the pCODR Clinical Guidance Panel's view that the benefits of panitumumab plus FOLFOX could likely be extended to panitumumab plus FOLFIRI. Upon reconsideration of the pERC Initial Recommendation, pERC reiterated that the Committee accepted the clinical view that the benefits of panitumumab plus FOLFOX could likely be extended to panitumumab plus FOLFIRI. pERC also noted there is currently no evidence to support the use of bevacizumab after panitumumab or the use of panitumumab in the third-line setting following its use in the first-line setting. Also during the reconsideration of the pERC Initial Recommendation, pERC discussed feedback from the Provincial Advisory Group regarding whether the benefits of panitumumab plus FOLFOX in mCRC can be generalized and extended to patients with small bowel cancers and cancer of the appendix. pERC was unable to make an evidence-informed recommendation specifically in those two populations, but acknowledged that in most jurisdictions patients with adenocarcinoma of the small bowel and appendix are managed systemically similarly to patients with mCRC.

EVIDENCE IN BRIEF

pERC deliberated upon:

- a pCODR systematic review
- other literature in the Clinical Guidance Report providing clinical context
- an evaluation of the manufacturer's economic model and budget impact analysis
- guidance from pCODR clinical and economic review panels
- input from one patient advocacy group (Colorectal Cancer Association of Canada)
- input from pCODR's Provincial Advisory Group.

Feedback on the pERC Initial Recommendation was also provided by:

- input from pCODR's Provincial Advisory Group
- the Submitter (Amgen Canada Inc.)

The pERC initial recommendation was to fund panitumumab (Vectibix) conditional on cost-effectiveness being improved to an acceptable level, for the treatment of patients with WT RAS mCRC in the first-line treatment setting in combination with FOLFOX, who have a contraindication to bevacizumab and who would otherwise be treated to FOLFOX. The pERC initial recommendation was to not fund panitumumab (Vectibix) for the treatment of the entire population of patients with WT RAS mCRC in the first-line treatment setting in combination with FOLFOX, who would otherwise be candidates to receive bevacizumab.

Feedback on the pERC Initial Recommendation indicated that the manufacturer agreed in part with the initial recommendation and pCODR's Provincial Advisory Group agreed with the initial recommendation.

OVERALL CLINICAL BENEFIT

pCODR review scope

The purpose of the review was to evaluate the safety and efficacy of panitumumab (Vectibix) plus FOLFOX compared to standard care options, for the first-line treatment of non-mutated wild-type (WT) RAS metastatic colorectal cancer (WT RAS mCRC).

Studies included: Two RCTs

The pCODR systematic review included two open-label randomized controlled trials (PEAK and PRIME studies) which evaluated the efficacy and safety of panitumumab plus FOLFOX compared to bevacizumab plus FOLFOX (PEAK) or FOLFOX alone (PRIME). Panitumumab was administered at a dose of 6 mg/kg of body weight given once every two weeks until disease progression. The pCODR Clinical Guidance Panel noted that FOLFOX6 (PEAK) and FOLFOX4 (PRIME) are standard regimens used in the first-line mCRC setting. The PEAK study was restricted to patients with an Eastern Cooperative Oncology Group Performance Status (ECOG PS) of 0-1 while the performance status in the PEAK trial was restricted to 0-2.

Patient populations: unresectable wild type K-RAS, ECOG performance status mostly ≤1

Patients were enrolled in the PEAK and PRIME trials based on K-RAS (exon 2) tumour status; subsequently extended RAS analysis was conducted to identify other RAS mutation beyond exon 2 (K-RAS Exon 3 and 4; N-RAS Exon 2, 3, and 4). Approximately 75% of patients (170 of 227) in the PEAK study (n=285) had WT RAS on the prospective extended RAS analysis. In the PRIME study (n=1183), approximately 48% of patients (512 of 1,060) had WT RAS on the prospective-retrospective extended RAS analysis.

Patient characteristics appeared to be balanced between the two groups in the PEAK and PRIME studies. Patients with WT K-RAS mCRC had a median age of 61 to 63 years in the PEAK and PRIME studies. Patients receiving prior adjuvant chemotherapy ranged from 16-17% among trial arms in the PRIME study. These data were not reported for the PEAK study. Additionally, pERC noted the majority of patients in the PEAK and PRIME studies had an ECOG PS of 0 or 1 (≥94%).

Key efficacy results: Clinical benefit compared with bevacizumab plus FOLFOX uncertain due to discordant PFS and OS results; improved PFS and OS compared with FOLFOX alone

The key efficacy outcomes deliberated on by pERC included progression-free survival (PFS), the primary endpoint of the PEAK and PRIME studies, and overall survival (OS).

In the extended WT RAS group of the PEAK study, the median PFS was 13 months in the panitumumab plus FOLFOX group and 9.5 months in the bevacizumab plus FOLFOX group (HR=0.65; 95%CI: 0.44-0.96, p=0.029). The median OS was 41.3 and 28.9 months in the panitumumab plus FOLFOX and bevacizumab plus FOLFOX groups, respectively (HR=0.63; 95%CI: 0.39-1.02, p=0.058). Compared to the larger WT K-RAS group, these results differed: PFS was not significantly improved while a significant difference was seen in OS, an endpoint for which the study was not powered. Considering the discrepancies in these results, pERC agreed with the pCODR Clinical Guidance Panel that the clinical benefit of panitumumab compared with bevacizumab remains uncertain.

In the PRIME study, panitumumab plus FOLFOX compared to FOLFOX alone resulted in significant improvements in PFS and OS in the WT RAS group. The median PFS was 10.1 months in the panitumumab plus FOLFOX group and 7.9 months in the FOLFOX alone group (HR=0.72; 95%CI: 0.58-0.90, p=0.004). The median OS was 25.8 and 20.2 months in the panitumumab plus FOLFOX and FOLFOX alone groups, respectively (HR=0.77; 95%CI: 0.64-0.84; p=0.009). The PFS and OS results were similar to those in the larger WT KRAS group.

Quality of life: No deterioration in overall quality of life

Quality of life (QoL) outcomes were not collected in the PEAK study but were collected in the PRIME study. One QoL scale was used in the PRIME study (Euroqol-5D). Results suggested that overall QoL was not statistically or clinically significantly different from the panitumumab plus FOLFOX and FOLFOX alone arms.

Safety: well-known and manageable toxicities

pERC reviewed the adverse events observed in the PEAK and PRIME studies and noted that the information aligned with the expected toxicity profile of panitumumab, which is well-known as this agent is already used to treat patients with mCRC as a third-line therapy. The following grade 3 or 4 adverse events occurred more frequently with panitumumab plus FOLFOX compared to bevacizumab plus FOLFOX and FOLFOX alone: skin toxicity/skin disorders, diarrhea, hypokalemia, and mucositis/mucosal inflammation.

Comparator information: Bevacizumab with combination chemotherapy

The current standard of care in the first-line treatment of advanced or metastatic CRC is bevacizumab with oxaliplatin or irinotecan-based combination chemotherapy. pERC noted that both pCODR's Provincial Advisory Group and the pCODR Clinical Guidance Panel considered bevacizumab plus FOLFOX or plus FOLFIRI to be the current standard of care for patients with WT RAS mCRC. The PEAK study provided a comparison with bevacizumab plus FOLFOX and the PRIME study provided a comparison to FOLFOX alone.

Contextual Information: pCODR review of cetuximab

Contextually, pERC noted cetuximab was reviewed by pCODR in January 2014. The review included the CRYSTAL study (Van Cutsem 2009) which compared cetuximab plus FOLFIRI to FOLFIRI alone and the FIRE-3 study (Heinemann 2013) which compared cetuximab plus FOLFIRI to bevacizumab plus FOLFIRI. In FIRE-3, pERC noted that discordant results were observed between the OS and PFS outcomes. In that review, pERC did not recommend funding cetuximab for the first-line treatment of patients with WT K-RAS mCRC. pERC noted an ongoing study, CALGB-C80405, was expected to provide more robust information on the effectiveness of cetuximab plus FOLFIRI compared to bevacizumab plus FOLFIRI. Since the pCODR review of cetuximab, the results of CALGB-C80405 have been published and suggest that cetuximab and bevacizumab in combination with first-line chemotherapy (FOLFOX or FOLFIRI) have similar PFS and OS outcomes.

Need: Additional treatment options for patients with contraindications to bevacizumab

Bevacizumab combined with oxaliplatin and irinotecan-based combination chemotherapies are standard first-line therapies in the management of mCRC. Approximately 10% of patients have a contraindication or intolerance to bevacizumab (e.g. active bleeding) and these patients would be treated only with combination chemotherapy. pERC acknowledged that there is a clinical need for panitumumab as a first-line therapy for these patients.

PATIENT-BASED VALUES

Values of patients with metastatic colorectal cancer: disease control and survival
pERC deliberated upon patient group input concerning panitumumab for mCRC and discussed the values of patients with mCRC. The most frequently reported treatment-related adverse events with current therapies include fatigue and weakness. pERC acknowledged that patients indicated it is important to access therapies to help control their mCRC and maintain or improve quality of life, and increase progression-free survival and overall survival.

Patient values on treatment: choice of effective but tolerable treatment options
pERC noted that three patients who provided input had direct experience with panitumumab. These patients reported adverse events with panitumumab, including rash, fatigue, and pain. Patients indicated that panitumumab was able to shrink/control their colorectal cancer, had overall acceptable side effects, and allowed them to maintain their usual QoL.

ECONOMIC EVALUATION

Economic model submitted: cost-utility analysis
The pCODR Economic Guidance Panel assessed two cost-utility analyses in the first-line setting for patients with WT RAS mCRC who are eligible or ineligible for bevacizumab. In the bevacizumab eligible population, panitumumab plus FOLFOX was compared to bevacizumab plus FOLFOX or bevacizumab plus FOLFIRI. In the bevacizumab ineligible population, panitumumab plus FOLFOX was compared to FOLFOX or FOLFIRI alone. The comparisons were based on the results of the PEAK and PRIME studies, respectively. The submitted models were partitioned survival curve models.

Basis of the economic model: clinical and economic inputs
Costs considered in the model provided by the submitter included drug acquisition costs, drug administration costs, RAS testing, resource costs and liver resection costs. The key clinical outcomes considered in the model provided by the submitter were PFS, time to death, and utilities. pERC noted that most of the appropriate factors were included in the model. However, the EGP noted that the economic models submitted did not allow for modification of the time horizon.

Drug costs: cost of treatment
Panitumumab costs $615.96 per 100mg vial with a strength of 20mg/mL. At the recommended dose of 6 mg/kg day 1 every 2 weeks, with a body weight of 70 kg, the cost of panitumumab is $184.78 per day and $5,174.06 per 28-day course.

Bevacizumab costs $600.00 per 100mg vial. At the recommended dose of 5 mg/kg day 1 every 2 weeks, with a body weight of 70 kg, the cost of bevacizumab is $150.00 per day and $4,200.00 per 28-day course.

Oxaliplatin costs $10.20/mg. At the recommended dose of 85 mg/m^2 day 1 every 2 weeks, the cost of oxaliplatin is $105.28 per day and $2947.80 per 28-day course. Leucovorin costs $0.05/mg. At the recommended dose of 200 mg/m^2 day 1 and 2 every 2 weeks, the cost of leucovorin is $2.43 per day and $68.00 per 28-day course. Fluorouracil costs $0.003/mg. At the recommended dose of bolus, 400 mg/m^2 and 2400 mg/m^2 on day 1 and continued over 3 days every 2 weeks, the cost of fluorouracil is $2.77 per day and $77.52 per 28-day course. Irinotecan costs $0.50/mg. At the recommended dose of 180 mg/m^2 day 1 every 2 weeks, the cost of irinotecan is $10.93 per day and $306.00 per 28-day course.

Cost-effectiveness estimates: EGP unable to provide estimates of cost-effectiveness
The EGP was unable to provide a best estimate for all comparators in both economic models (bevacizumab eligible and bevacizumab ineligible populations) largely due to the inability to shorten the extrapolation of clinical benefit gained with panitumumab plus FOLFOX in the submitted model. The factors found to have the largest impact on the cost-effectiveness ratios were the PFS hazard ratios of panitumumab plus FOLFOX versus the comparators and the liver resection rates.

ADOPTION FEASIBILITY

Considerations for implementation and budget impact: small population and high drug cost
pERC discussed the feasibility of implementing a funding recommendation for panitumumab plus FOLFOX. It was noted the high cost of panitumumab and the need for RAS testing in the first-line setting would be key challenges. Upon reconsideration of the pERC Initial Recommendation, pERC acknowledged that in the first-line mCRC setting, some provinces have adopted evidence-informed shorter infusion times for bevacizumab which is associated with reduced chair and nursing time, particularly when compared to the infusion time required for panitumumab. pERC noted that the approach of shorter infusion times for bevacizumab would be of value and is reasonable to explore if appropriate for meeting jurisdictional needs. pERC noted that extended RAS testing beyond K-RAS testing is now the current standard of care in Canada. The pCODR Provincial Advisory Group indicated that there is a familiarity with panitumumab given its use in the third-line setting for mCRC. pERC noted that the number of patients with non-mutated WT RAS mCRC who have contraindications or intolerance is small and panitumumab would be an alternative treatment option for patients with contraindications or intolerance to bevacizumab and who would otherwise be treated only with combination chemotherapy.

DRUG AND CONDITION INFORMATION

Drug Information	• Monoclonal antibody • 100, 200 and 400mg vial • 6 mg/kg of body weight every 2 weeks until disease progression
Cancer Treated	• Non-mutated wild-type (WT) RAS metastatic colorectal cancer (WT RAS mCRC). • First-line setting
Burden of Illness	• Colorectal cancer is the second most common cause of cancer-related death in Canada • Majority of patients with mCRC present with unresectable metastatic colorectal cancer
Current Standard Treatment	• Bevacizumab plus FOLFIRI (irinotecan, leucovorin, fluorouracil) • Bevacizumab plus FOLFOX (oxaliplatin, leucovorin, fluorouracil) • FOLFIRI • FOLFOX • Bevacizumab plus capecitabine
Limitations of Current Therapy	• A large majority of patients will die of mCRC. • There remains a need for more effective cancer therapies. • Some patients are unable to tolerate bevacizumab plus FOLFIRI or FOLFOX

ABOUT THIS RECOMMENDATION

The pCODR Expert Review Committee (pERC)

Recommendations are made by the pCODR Expert Review Committee following the pERC Deliberative Framework. pERC members and their roles are as follows:

pERC Membership During Deliberation of the Initial Recommendation

Dr. Anthony Fields, Oncologist (Chair)
Dr. Maureen Trudeau, Oncologist (Vice-Chair)
Dr. Scott Berry, Oncologist
Bryson Brown, Patient Member
Dr. Matthew Cheung, Oncologist
Mario de Lemos, Pharmacist
Dr. Sunil Desai, Oncologist
Mike Doyle, Economist
Dr. Bill Evans, Oncologist
Dr. Allan Grill, Family Physician
Dr. Paul Hoskins, Oncologist
Danica Wasney, Pharmacist
Carole McMahon, Patient Member
Jo Nanson, Patient Member Alternate
Dr. Tallal Younis, Oncologist
Dr. Kelvin Chan, Oncologist

Dr. Maureen Trudeau chaired the meeting in her capacity as Vice-Chair of pERC. All members participated in deliberations and voting on the initial recommendation except:

- Drs. Bill Evans and Allan Grill who were not present for this meeting
- Dr. Anthony Fields who was excluded from chairing and voting due to a conflict of interest
- Dr. Scott Berry and Kelvin Chan who were excluded from voting due to a conflict of interest
- Jo Nanson who was the designated non-voting Patient Alternate for this meeting

pERC Membership During Deliberation of the Final Recommendation

Dr. Anthony Fields, Oncologist (Chair)
Dr. Maureen Trudeau, Oncologist (Vice-Chair)
Dr. Scott Berry, Oncologist
Bryson Brown, Patient Member
Dr. Kelvin Chan, Oncologist
Dr. Matthew Cheung, Oncologist
Dr. Craig Earle, Oncologist
Dr. Allan Grill, Family Physician
Dr. Paul Hoskins, Oncologist
Don Husereau, Health Economist
Dr. Anil Abraham Joy, Oncologist
Carole McMahon, Patient Member Alternate
Dr. Catherine Moltzan, Oncologist
Jo Nanson, Patient Member
Karen MacCurdy-Thompson, Pharmacist
Danica Wasney, Pharmacist

Dr. Maureen Trudeau chaired the meeting in her capacity as Vice-Chair of pERC. All members participated in deliberations and voting on the final recommendation except:

- Drs. Matthew Cheung and Kelvin Chan who were not present for this meeting
- Dr. Anthony Fields who was excluded from chairing and voting due to a conflict of interest
- Dr. Scott Berry, Dr. Craig Earle, and Don Husereau who were excluded from voting due to a conflict of interest
- Jo Nanson who was the designated non-voting Patient Alternate for this meeting

Avoidance of conflicts of interest

All members of the pCODR Expert Review Committee must comply with the *pCODR Conflict of Interest Guidelines*; individual conflict of interest statements for each member are posted on the pCODR website and pERC members have an obligation to disclose conflicts on an ongoing basis. For the review of Panitumumab (Vectibix) for Metastatic Colorectal Cancer, through their declarations, five members had a real, potential or perceived conflict and based on application of the *pCODR Conflict of Interest Guidelines*, four of these members were excluded from voting.

Information sources used

The pCODR Expert Review Committee is provided with a *pCODR Clinical Guidance Report* and a *pCODR Economic Guidance Report*, which include a summary of patient advocacy group and Provincial Advisory Group input, as well as original patient advocacy group input submissions to inform their deliberations. pCODR guidance reports are developed following the pCODR review process and are posted on the pCODR website. Please refer to the pCODR guidance reports for more detail on their content.

Consulting publicly disclosed information

pCODR considers it essential that pERC recommendations be based on information that may be publicly disclosed. All information provided to the pCODR Expert Review Committee for its deliberations was handled in accordance with the *pCODR Disclosure of Information Guidelines*.

Use of this recommendation

This recommendation from the pCODR Expert Review Committee (pERC) is not intended as a substitute for professional advice, but rather to help Canadian health systems leaders and policymakers make well-informed decisions and improve the quality of health care services. While patients and others may use this Recommendation, it is for informational and educational purposes only, and should not be used as a substitute for the application of clinical judgment respecting the care of a particular patient, for professional judgment in any decision-making process, or for professional medical advice.

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